



PTO/SB/81 (04-05)

Approved for use through 11/30/2005. OMB 0651-0035

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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**POWER OF ATTORNEY  
and  
CORRESPONDENCE ADDRESS  
INDICATION FORM**

Application Number	09/766,511
Filing Date	January 19, 2001
First Named Inventor	Sean A. McCarthy
Title	NUCLEIC ACIDS ENCODING TANGO 405 AN
Art Unit	1646
Examiner Name	Jiang, Dong
Attorney Docket Number	MPI00-537OMNIRCEM

I hereby revoke all previous powers of attorney given in the above-identified application.

I hereby appoint:

☒ Practitioners associated with the Customer Number:

30405

OR

☐ Practitioner(s) named below:

Name	Registration Number

as my/our attorney(s) or agent(s) to prosecute the application identified above, and to transact all business in the United States Patent and Trademark Office connected therewith.

Please recognize or change the correspondence address for the above-identified application to:

☒ The address associated with the above-mentioned Customer Number:

OR

☐ The address associated with Customer Number:

30405

☐ Firm or  
Individual Name

Address

City

State

Zip

Country

Telephone

Email

I am the:

☐ Applicant/Inventor.☒ Assignee of record of the entire interest. See 37 CFR 3.71.  
Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)**SIGNATURE of Applicant or Assignee of Record**

Signature	<i>Ian Robert Silverman</i>	Date	19 October 2005
Name	Ian Robert Silverman	Telephone	617-557-3522
Title and Company	Associate General Counsel. Millennium Pharmaceuticals, Inc.		

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.

☐ \*Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.31, 1.32 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

**STATEMENT UNDER 37 CFR 3.73(b)**Applicant/Patent Owner: Millennium Pharmaceuticals, Inc.Application No./Patent No.: 09/766,511 Filed/Issue Date: 19 January 2001Entitled: NUCLEIC ACIDS ENCODING TANGO405 AND FUNCTIONAL FRAGMENTS AND USES THEREOFMillennium Pharmaceuticals, Inc., a a Delaware corporation

(Name of Assignee)

(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:

1. ☒ the assignee of the entire right, title, and interest; or
2. ☐ an assignee of less than the entire right, title and interest.  
The extent (by percentage) of its ownership interest is \_\_\_\_\_ %

in the patent application/patent identified above by virtue of either:

A. ☒ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 012420, Frame 0590, or for which a copy thereof is attached.

OR

B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as shown below:

1. From: \_\_\_\_\_ To: \_\_\_\_\_  
The document was recorded in the United States Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.
2. From: \_\_\_\_\_ To: \_\_\_\_\_  
The document was recorded in the United States Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.
3. From: \_\_\_\_\_ To: \_\_\_\_\_  
The document was recorded in the United States Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet.☒ Copies of assignments or other documents in the chain of title are attached.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, if the assignment is to be recorded in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

Ian Robert Silverman

Signature

19 October 2005

Date

Ian Robert Silverman

Printed or Typed Name

617-551-8604

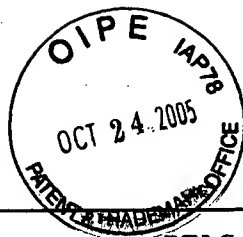
Telephone Number

Associate General Counsel

Title

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



✓ 10/47-65  
PAD

FEBRUARY 26, 2002

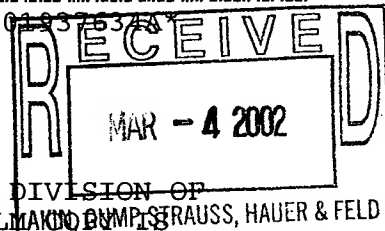
PTAS  
AKIN, GUMP, STRAUSS, HAUER & FELD, L.L.P  
GARY D. COLBY, PH.D., J.D.  
2005 MARKET STREET - SUITE 2200  
ONE COMMERCE SQUARE  
PHILADELPHIA, PA 19103

Chief Information Officer  
Washington, DC 20231  
www.uspto.gov



\*1018376348\*

UNITED STATES PATENT AND TRADEMARK OFFICE  
NOTICE OF RECORDATION OF ASSIGNMENT DOCUMENT



THE ENCLOSED DOCUMENT HAS BEEN RECORDED BY THE ASSIGNMENT DIVISION OF THE U.S. PATENT AND TRADEMARK OFFICE. A COMPLETE MICROFILM AND DIGITAL COPY IS AVAILABLE AT THE ASSIGNMENT SEARCH ROOM ON THE REEL AND FRAME NUMBER REFERENCED BELOW.

PLEASE REVIEW ALL INFORMATION CONTAINED ON THIS NOTICE. THE INFORMATION CONTAINED ON THIS RECORDATION NOTICE REFLECTS THE DATA PRESENT IN THE PATENT AND TRADEMARK ASSIGNMENT SYSTEM. IF YOU SHOULD FIND ANY ERRORS OR HAVE QUESTIONS CONCERNING THIS NOTICE, YOU MAY CONTACT THE EMPLOYEE WHOSE NAME APPEARS ON THIS NOTICE AT 703-308-9723. PLEASE SEND REQUEST FOR CORRECTION TO: U.S. PATENT AND TRADEMARK OFFICE, ASSIGNMENT DIVISION, BOX ASSIGNMENTS, CG-4, 1213 JEFFERSON DAVIS HWY, SUITE 320, WASHINGTON, D.C. 20231.

RECORDATION DATE: 01/07/2002

REEL/FRAME: 012420/0590  
NUMBER OF PAGES: 24

BRIEF: CORRECT NAMES OF CONVEYING PARTIES AND CORRECT EXECUTION DATES  
REEL/FRAME 012133/0976

ASSIGNOR:  
FRASER, CHRISTOPHER C.

DOC DATE: 06/12/2001

ASSIGNOR:  
BARNES, THOMAS M.

DOC DATE: 06/13/2001

ASSIGNOR:  
SHARP, JOHN D.

DOC DATE: 06/14/2001

ASSIGNOR:  
KIRST, SUSAN J.

DOC DATE: 07/10/2001

ASSIGNOR:  
MYERS, PAUL S.

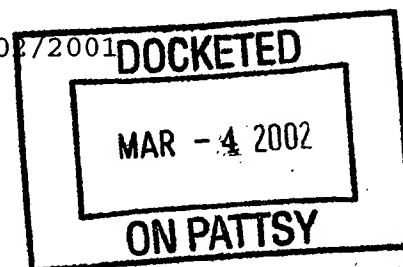
DOC DATE: 06/14/2001

ASSIGNOR:  
HOLTZMAN, DOUGLAS A.

DOC DATE: 06/13/2001

ASSIGNOR:  
MCCARTHY, SEAN A.

DOC DATE: 07/02/2001



012420/0590 PAGE 2

ASSIGNOR:  
WRIGHTON, NICHOLAS

DOC DATE: 06/20/2001

ASSIGNOR:  
GOODEARL, ANDREW D.J.

DOC DATE: 06/12/2001

ASSIGNOR:  
KHODADOUST, MEHRAN

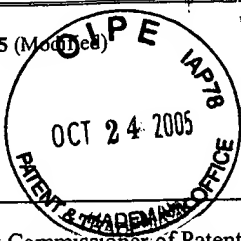
DOC DATE: 06/19/2001

ASSIGNEE:  
MILLENNIUM PHARMACEUTICALS, INC.  
75 SIDNEY STREET  
CAMBRIDGE, MASSACHUSETTS 02139

SERIAL NUMBER: 09766511  
PATENT NUMBER:

FILING DATE: 01/19/2001  
ISSUE DATE:

SHAREILL COLES, EXAMINER  
ASSIGNMENT DIVISION  
OFFICE OF PUBLIC RECORDS



01-09-2002



101937634

OVER SHEET

Y

Attorney Docket  
No.: 10147-65US

1.7.02

To the Assistant Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):

Christopher C. Fraser  
Thomas M. Barnes  
John D. Sharp  
Susan J. Kirst  
Paul S. Myers  
Douglas A. Holtzman  
Sean A. McCarthy  
Nicholas Wrighton  
Andrew D.J. Goodearl  
Mehran Khodadoust

2. Name and address of receiving party(ies):

Millennium Pharmaceuticals, Inc.  
75 Sidney Street  
Cambridge, MA 02139

A Massachusetts Corporation

3. Nature of conveyance:

- ☐ Assignment ☐ Merger  
☐ Security Agreement ☐ Change of Name  
☒ Other: Correct names of conveying parties and correct execution dates. REEL/FRAME: 012133/0976

Execution Dates:

06/12/01 (Fraser/Goodearl)  
06/13/01 (Barnes/Holtzman)  
06/14/01 (Sharp/Myers)  
06/19/01 (Khodadoust)  
06/20/01 (Wrighton)  
07/02/01 (McCarthy)  
07/10/01 (Kirst)

4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the application is:

A. Patent Application No.(s): 09/766,511

B. Patent No.(s):

Additional numbers attached? ☐ Yes ☒ No

5. Name and address of party to whom correspondence document should be mailed:

GARY D. COLBY, Ph.D., J.D.  
AKIN, GUMP, STRAUSS, HAUER & FELD, L.L.P.  
One Commerce Square - 2005 Market Street - Suite 2200  
Philadelphia, PA 19103  
Telephone: (215) 965-1200; Direct Dial: (215) 965-1285  
Facsimile: (215) 965-1210; E-Mail: gcolby@akingump.com

6. Total number of applications and patents involved: [1]

7. Total fee (37 C.F.R. 3.41) Cal. 1 x \$40.00 = \$40.00  
☒ Check # 8876 enclosed  
☐ Authorized to be charged to deposit account

8. Deposit account number: 50-1017 (Billing No.: 210147.0065)

01/09/2002 LNUELLER 00000006 09766511

DO NOT USE THIS SPACE

01 FC-581

40.00 00

9. Statement and signature

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Gary D. Colby, Ph.D., J.D.  
Name of Person Signing

Signature

Reg. #40,961

Date

20 November 2001

Total number of pages including cover sheet, attachments and document: [22]

JOINT

**ASSIGNMENT**

**WHEREAS, John D. Sharp, Susan J. Kirst, Paul S. Myers, Andrew D.J. Goodearl, Douglas A. Holtzman, and Mehran Khodadoust**, all citizens of the United States of America; with respective post office addresses of 245 Park Avenue, Arlington, MA 02476; 12 Dana Street, Brookline, MA 02445; 14 Cornelius Way, Cambridge, MA 02141; 13 Indian Ridge Road, Natick, MA 01760; 821 Centre Street, No. 6, Jamaica Plain, MA 02130; and 106 Sewell Avenue, Apartment 6, Brookline, MA 02445; **Sean A. McCarthy, and Nicholas Wrighton**, both citizens of the United Kingdom, with respective post office addresses of 3625 Dupont Street, San Diego, CA 92106, and 18 Lloyd Street, Winchester, MA 01890; **Christopher C. Fraser**, a citizen of Canada, with a post office address of 52 Grassland Street, Lexington, MA 02421, and **Thomas S. Barnes**, a citizen of Australia, with a post office address of 12 Mason Terrace, Brookline, MA 02446, hereinafter generally referred to as "ASSIGNORS," have invented a certain new and useful

**Novel Genes Encoding Proteins Having Prognostic, Diagnostic, Preventive, Therapeutic, And Other Uses**

for which we have executed a United States patent application, Application No. 09/766,511, filed January 19, 2001, and

**ASSIGNORS** authorize **ASSIGNEE** or **ASSIGNEE's** representative to insert the Application Number and Filing date of this application if they are unknown at the time of execution of this Assignment.

**WHEREAS, Millennium Pharmaceuticals, Inc.**, a Delaware corporation having a place of business at 75 Sidney Street, Cambridge, MA 02139, hereinafter generally referred to as "ASSIGNEE", is desirous of acquiring said invention and said patent application.

**NOW, THEREFORE**, in consideration of the sum of One Dollar and other good and valuable executed consideration, the full receipt and sufficiency of all of which are hereby acknowledged and intending to be legally bound hereby, we, the undersigned **ASSIGNORS**, hereby agree to sell, assign, transfer and convey and by these presents do sell, assign, transfer and convey unto the above-named **ASSIGNEE**, the whole and entire right, title and interest

in and to said invention as described in the above patent application, for the territory of the United States and its possessions and territories and all foreign countries;

in and to the above patent application and any and all related United States and foreign patent applications disclosing said invention, including provisionals, non-provisionals, divisions and continuations thereof, along with all rights of priority created by said patent application under any treaty relating thereto; and

in and to all United States and foreign patents which may be granted on any and all of said patent applications, including extensions, reissues and reexamination certificates thereof;

said invention, application(s) and patent(s) to be held and enjoyed by the above-named ASSIGNEE, for ASSIGNEE's own use and benefit, and for ASSIGNEE's legal representatives and assigns to the full end of the term or terms for which said patent(s) may be granted, as fully and entirely as the same would have been held by the undersigned ASSIGNORS had this assignment and sale not been made; and for the aforesaid consideration ASSIGNORS hereby covenant, agree and undertake to execute, whenever requested by the above-named ASSIGNEE, all patent applications, assignments, lawful oaths and any other papers which ASSIGNEE may deem necessary or desirable for securing to ASSIGNEE or for maintaining for ASSIGNEE all the patent(s) hereby assigned or agreed to be assigned; all without further compensation to the undersigned ASSIGNORS.

x 7/2/01

x SMCC (SEAL)  
Sean A. McCarthy

\_\_\_\_\_

\_\_\_\_\_ (SEAL)  
Christopher C. Fraser

\_\_\_\_\_

\_\_\_\_\_ (SEAL)  
John D. Sharp

\_\_\_\_\_

\_\_\_\_\_ (SEAL)  
Thomas S. Barnes

\_\_\_\_\_

\_\_\_\_\_ (SEAL)  
Susan J. Kirst

\_\_\_\_\_

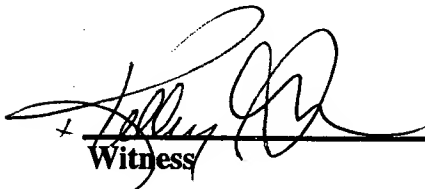
\_\_\_\_\_ (SEAL)  
Paul S. Myers

\_\_\_\_\_  
Nicholas Wrighton (SEAL)

\_\_\_\_\_  
Andrew D.J. Goodearl (SEAL)

\_\_\_\_\_  
Douglas A. Holtzman (SEAL)

\_\_\_\_\_  
Mehran Khodadoust (SEAL)

+   
Witness

+ 4605 Campus Ave #3 San Diego CA  
Address 92116

+ Jason Adams  
Witness


+ 4317 Maryland St. San Diego, Ca  
Address 92103



in and to the above patent application and any and all related United States and foreign patent applications disclosing said invention, including provisionals, non-provisionals, divisions and continuations thereof, along with all rights of priority created by said patent application under any treaty relating thereto; and

in and to all United States and foreign patents which may be granted on any and all of said patent applications, including extensions, reissues and reexamination certificates thereof;

said invention, application(s) and patent(s) to be held and enjoyed by the above-named ASSIGNEE, for ASSIGNEE's own use and benefit, and for ASSIGNEE's legal representatives and assigns to the full end of the term or terms for which said patent(s) may be granted, as fully and entirely as the same would have been held by the undersigned ASSIGNORS had this assignment and sale not been made; and for the aforesaid consideration ASSIGNORS hereby covenant, agree and undertake to execute, whenever requested by the above-named ASSIGNEE, all patent applications, assignments, lawful oaths and any other papers which ASSIGNEE may deem necessary or desirable for securing to ASSIGNEE or for maintaining for ASSIGNEE all the patent(s) hereby assigned or agreed to be assigned; all without further compensation to the undersigned ASSIGNORS.

_____	_____ Sean A. McCarthy _____ (SEAL)
x <u>Jun 12, 2001</u>	x <u></u> Christopher C. Fraser _____ (SEAL)
_____	_____ John D. Sharp _____ (SEAL)
_____	_____ Thomas S. Barnes _____ (SEAL)
_____	_____ Susan J. Kirst _____ (SEAL)
_____	_____ Paul S. Myers _____ (SEAL)

STATE OF Massachusetts :  
 : SS.  
COUNTY OF Middlebury :

Before me, a notary public in and for the State and County aforesaid, on this 12th day of June, 2001, personally appeared Christopher C. Fraser, who being to me personally known, and who having first executed the foregoing instrument in my presence and have been by me first duly sworn, did acknowledge the foregoing instrument as his free deed and act, signed, sealed and delivered by him for the purpose therein stated and intending to be legally bound thereby and intending that said instrument be recorded.

Simone Corriveau  
Notary Public

My Commission Expires: 9/1/2006

STATE OF \_\_\_\_\_ :  
 : SS.  
COUNTY OF \_\_\_\_\_ :

Before me, a notary public in and for the State and County aforesaid, on this \_\_\_\_ day of \_\_\_\_\_, 2001, personally appeared \_\_\_\_\_, who being to me personally known, and who having first executed the foregoing instrument in my presence and have been by me first duly sworn, did acknowledge the foregoing instrument as his free deed and act, signed, sealed and delivered by him for the purpose therein stated and intending to be legally bound thereby and intending that said instrument be recorded.

Notary Public

My Commission Expires:

in and to the above patent application and any and all related United States and foreign patent applications disclosing said invention, including provisionals, non-provisionals, divisions and continuations thereof, along with all rights of priority created by said patent application under any treaty relating thereto; and

in and to all United States and foreign patents which may be granted on any and all of said patent applications, including extensions, reissues and reexamination certificates thereof;

said invention, application(s) and patent(s) to be held and enjoyed by the above-named ASSIGNEE, for ASSIGNEE's own use and benefit, and for ASSIGNEE's legal representatives and assigns to the full end of the term or terms for which said patent(s) may be granted, as fully and entirely as the same would have been held by the undersigned ASSIGNORS had this assignment and sale not been made; and for the aforesaid consideration ASSIGNORS hereby covenant, agree and undertake to execute, whenever requested by the above-named ASSIGNEE, all patent applications, assignments, lawful oaths and any other papers which ASSIGNEE may deem necessary or desirable for securing to ASSIGNEE or for maintaining for ASSIGNEE all the patent(s) hereby assigned or agreed to be assigned; all without further compensation to the undersigned ASSIGNORS.

\_\_\_\_\_

\_\_\_\_\_  
Sean A. McCarthy (SEAL)

\_\_\_\_\_

\_\_\_\_\_  
Christopher C. Fraser (SEAL)

x 6-14-01  
\_\_\_\_\_

x   
John D. Sharp (SEAL)

\_\_\_\_\_

\_\_\_\_\_  
Thomas S. Barnes (SEAL)

\_\_\_\_\_

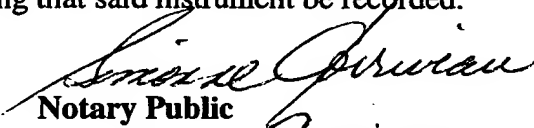
\_\_\_\_\_  
Susan J. Kirst (SEAL)

\_\_\_\_\_

\_\_\_\_\_  
Paul S. Myers (SEAL)

STATE OF Massachusetts :  
 : ss.  
COUNTY OF Middlesex :

Before me, a notary public in and for the State and County aforesaid, on this 14th day of June, 2001, personally appeared John D. Sharp, who being to me personally known, and who having first executed the foregoing instrument in my presence and have been by me first duly sworn, did acknowledge the foregoing instrument as his free deed and act, signed, sealed and delivered by him for the purpose therein stated and intending to be legally bound thereby and intending that said instrument be recorded.

  
Notary Public

Simone CORRIVEAU

My Commission Expires: 9/1/2006

STATE OF \_\_\_\_\_ :  
 : ss.  
COUNTY OF \_\_\_\_\_ :

Before me, a notary public in and for the State and County aforesaid, on this \_\_\_\_ day of \_\_\_\_\_, 2001, personally appeared \_\_\_\_\_, who being to me personally known, and who having first executed the foregoing instrument in my presence and have been by me first duly sworn, did acknowledge the foregoing instrument as his free deed and act, signed, sealed and delivered by him for the purpose therein stated and intending to be legally bound thereby and intending that said instrument be recorded.

Notary Public

My Commission Expires:

in and to the above patent application and any and all related United States and foreign patent applications disclosing said invention, including provisionals, non-provisionals, divisions and continuations thereof, along with all rights of priority created by said patent application under any treaty relating thereto; and

in and to all United States and foreign patents which may be granted on any and all of said patent applications, including extensions, reissues and reexamination certificates thereof;

said invention, application(s) and patent(s) to be held and enjoyed by the above-named ASSIGNEE, for ASSIGNEE's own use and benefit, and for ASSIGNEE's legal representatives and assigns to the full end of the term or terms for which said patent(s) may be granted, as fully and entirely as the same would have been held by the undersigned ASSIGNORS had this assignment and sale not been made; and for the aforesaid consideration ASSIGNORS hereby covenant, agree and undertake to execute, whenever requested by the above-named ASSIGNEE, all patent applications, assignments, lawful oaths and any other papers which ASSIGNEE may deem necessary or desirable for securing to ASSIGNEE or for maintaining for ASSIGNEE all the patent(s) hereby assigned or agreed to be assigned; all without further compensation to the undersigned ASSIGNORS.

\_\_\_\_\_  
Sean A. McCarthy (SEAL)

\_\_\_\_\_  
Christopher C. Fraser (SEAL)

\_\_\_\_\_  
John D. Sharp (SEAL)

x June 13 2001  
x Thomas M. Barnes (SEAL)  
Thomas S. Barnes  
M. TUB 4361

\_\_\_\_\_  
Susan J. Kirst (SEAL)

\_\_\_\_\_  
Paul S. Myers (SEAL)

STATE OF Massachusetts :  
COUNTY OF Middlebury : ss.

Before me, a notary public in and for the State and County aforesaid, on this 13<sup>th</sup> day of June, 2001, personally appeared Thomas H. Barnes, who being to me personally known, and who having first executed the foregoing instrument in my presence and have been by me first duly sworn, did acknowledge the foregoing instrument as his free deed and act, signed, sealed and delivered by him for the purpose therein stated and intending to be legally bound thereby and intending that said instrument be recorded.

Simonne Corriveau  
Notary Public

My Commission Expires: 9/1/2006

STATE OF \_\_\_\_\_ :  
COUNTY OF \_\_\_\_\_ : ss.

Before me, a notary public in and for the State and County aforesaid, on this \_\_\_\_ day of \_\_\_\_\_, 2001, personally appeared \_\_\_\_\_, who being to me personally known, and who having first executed the foregoing instrument in my presence and have been by me first duly sworn, did acknowledge the foregoing instrument as his free deed and act, signed, sealed and delivered by him for the purpose therein stated and intending to be legally bound thereby and intending that said instrument be recorded.

Notary Public

My Commission Expires:

in and to the above patent application and any and all related United States and foreign patent applications disclosing said invention, including provisionals, non-provisionals, divisions and continuations thereof, along with all rights of priority created by said patent application under any treaty relating thereto; and

in and to all United States and foreign patents which may be granted on any and all of said patent applications, including extensions, reissues and reexamination certificates thereof;

said invention, application(s) and patent(s) to be held and enjoyed by the above-named ASSIGNEE, for ASSIGNEE's own use and benefit, and for ASSIGNEE's legal representatives and assigns to the full end of the term or terms for which said patent(s) may be granted, as fully and entirely as the same would have been held by the undersigned ASSIGNORS had this assignment and sale not been made; and for the aforesaid consideration ASSIGNORS hereby covenant, agree and undertake to execute, whenever requested by the above-named ASSIGNEE, all patent applications, assignments, lawful oaths and any other papers which ASSIGNEE may deem necessary or desirable for securing to ASSIGNEE or for maintaining for ASSIGNEE all the patent(s) hereby assigned or agreed to be assigned; all without further compensation to the undersigned ASSIGNORS.

\_\_\_\_\_  
Sean A. McCarthy (SEAL)

\_\_\_\_\_  
Christopher C. Fraser (SEAL)

\_\_\_\_\_  
John D. Sharp (SEAL)

\_\_\_\_\_  
Thomas S. Barnes (SEAL)

x 10 July 2001

x Susan J. Kirst (SEAL)  
Susan J. Kirst

\_\_\_\_\_  
Paul S. Myers (SEAL)

STATE OF Mass : x  
COUNTY OF Norfolk : ss. x

Before me, a notary public in and for the State and County aforesaid, on this 10 day x  
of July, 2001, personally appeared Susan J. Cirst, who x  
being to me personally known, and who having first executed the foregoing instrument in my  
presence and have been by me first duly sworn, did acknowledge the foregoing instrument as his  
free deed and act, signed, sealed and delivered by him for the purpose therein stated and  
intending to be legally bound thereby and intending that said instrument be recorded.

Notary Public

My Commission Expires:

LORINA G. ALLIN  
NOTARY PUBLIC  
MY COMMISSION EXPIRES APRIL 11, 2008

*Lorina G. Allin*

STATE OF \_\_\_\_\_ :  
COUNTY OF \_\_\_\_\_ : ss.

Before me, a notary public in and for the State and County aforesaid, on this \_\_\_\_ day  
of \_\_\_\_\_, 2001, personally appeared \_\_\_\_\_, who  
being to me personally known, and who having first executed the foregoing instrument in my  
presence and have been by me first duly sworn, did acknowledge the foregoing instrument as his  
free deed and act, signed, sealed and delivered by him for the purpose therein stated and  
intending to be legally bound thereby and intending that said instrument be recorded.

Notary Public

My Commission Expires:



in and to the above patent application and any and all related United States and foreign patent applications disclosing said invention, including provisionals, non-provisionals, divisions and continuations thereof, along with all rights of priority created by said patent application under any treaty relating thereto; and

in and to all United States and foreign patents which may be granted on any and all of said patent applications, including extensions, reissues and reexamination certificates thereof;

said invention, application(s) and patent(s) to be held and enjoyed by the above-named ASSIGNEE, for ASSIGNEE's own use and benefit, and for ASSIGNEE's legal representatives and assigns to the full end of the term or terms for which said patent(s) may be granted, as fully and entirely as the same would have been held by the undersigned ASSIGNORS had this assignment and sale not been made; and for the aforesaid consideration ASSIGNORS hereby covenant, agree and undertake to execute, whenever requested by the above-named ASSIGNEE, all patent applications, assignments, lawful oaths and any other papers which ASSIGNEE may deem necessary or desirable for securing to ASSIGNEE or for maintaining for ASSIGNEE all the patent(s) hereby assigned or agreed to be assigned; all without further compensation to the undersigned ASSIGNORS.

\_\_\_\_\_  
Sean A. McCarthy (SEAL)

\_\_\_\_\_  
Christopher C. Fraser (SEAL)

\_\_\_\_\_  
John D. Sharp (SEAL)

\_\_\_\_\_  
Thomas S. Barnes (SEAL)

\_\_\_\_\_  
Susan J. Kirst (SEAL)

x 6/14/01  
x Paul S. Myers (SEAL)

STATE OF Massachusetts : ☒  
: ss.  
COUNTY OF Norfolk : ☒

Before me, a notary public in and for the State and County aforesaid, on this 14<sup>th</sup> day ☒  
of June, 2001, personally appeared Paul Myers, who ☒  
being to me personally known, and who having first executed the foregoing instrument in my  
presence and have been by me first duly sworn, did acknowledge the foregoing instrument as his  
free deed and act, signed, sealed and delivered by him for the purpose therein stated and  
intending to be legally bound thereby and intending that said instrument be recorded.

Notary Public Lawrence M. Beigel ☒

My Commission Expires: March 31, 2006 ☒

STATE OF \_\_\_\_\_ :  
: ss.  
COUNTY OF \_\_\_\_\_ :

Before me, a notary public in and for the State and County aforesaid, on this \_\_\_\_ day  
of \_\_\_\_\_, 2001, personally appeared \_\_\_\_\_, who  
being to me personally known, and who having first executed the foregoing instrument in my  
presence and have been by me first duly sworn, did acknowledge the foregoing instrument as his  
free deed and act, signed, sealed and delivered by him for the purpose therein stated and  
intending to be legally bound thereby and intending that said instrument be recorded.

Notary Public

My Commission Expires:

x 6/20/01

x Nicholas Wn (SEAL)  
Nicholas Wrighton

(SEAL)  
Andrew D.J. Goodearl

(SEAL)  
Douglas A. Holtzman

(SEAL)  
Mehran Khodadoust

Witness

Address

Witness

Address

STATE OF Massachusetts : x  
COUNTY OF Norfolk : SS.  
: x

Before me, a notary public in and for the State and County aforesaid, on this 26th day of June, 2001, personally appeared Nicholas Wrighton, who being to me personally known, and who having first executed the foregoing instrument in my presence and have been by me first duly sworn, did acknowledge the foregoing instrument as his free deed and act, signed, sealed and delivered by him for the purpose therein stated and intending to be legally bound thereby and intending that said instrument be recorded.

Notary Public Shirley M. Bay x

My Commission Expires: 3/31/06 x

STATE OF \_\_\_\_\_ :  
COUNTY OF \_\_\_\_\_ : SS.  
:

Before me, a notary public in and for the State and County aforesaid, on this \_\_\_\_ day of \_\_\_\_\_, 2001, personally appeared \_\_\_\_\_, who being to me personally known, and who having first executed the foregoing instrument in my presence and have been by me first duly sworn, did acknowledge the foregoing instrument as his free deed and act, signed, sealed and delivered by him for the purpose therein stated and intending to be legally bound thereby and intending that said instrument be recorded.

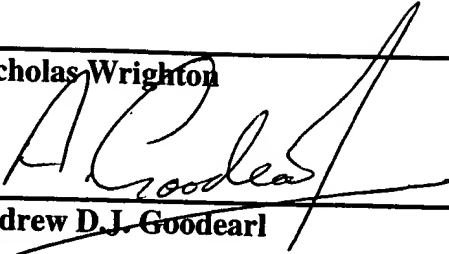
Notary Public

My Commission Expires:

\_\_\_\_\_

\_\_\_\_\_  
Nicholas Wrighton (SEAL)

X 12 JUNE 2001

X   
\_\_\_\_\_  
Andrew D.J. Goodearl (SEAL)

\_\_\_\_\_

\_\_\_\_\_  
Douglas A. Holtzman (SEAL)

\_\_\_\_\_

\_\_\_\_\_  
Mehran Khodadoust (SEAL)

\_\_\_\_\_  
Witness Address

\_\_\_\_\_  
Witness Address

STATE OF Massachusetts :  
: ss.  
COUNTY OF Middlesex :

Before me, a notary public in and for the State and County aforesaid, on this 12<sup>th</sup> day of June, 2001, personally appeared Andrew D.J. Gondeur, who being to me personally known, and who having first executed the foregoing instrument in my presence and have been by me first duly sworn, did acknowledge the foregoing instrument as his free deed and act, signed, sealed and delivered by him for the purpose therein stated and intending to be legally bound thereby and intending that said instrument be recorded.

Simonne Corriveau  
Notary Public

My Commission Expires:

9/1/2006

STATE OF \_\_\_\_\_ :  
: ss.  
COUNTY OF \_\_\_\_\_ :

Before me, a notary public in and for the State and County aforesaid, on this \_\_\_\_ day of \_\_\_\_\_, 2001, personally appeared \_\_\_\_\_, who being to me personally known, and who having first executed the foregoing instrument in my presence and have been by me first duly sworn, did acknowledge the foregoing instrument as his free deed and act, signed, sealed and delivered by him for the purpose therein stated and intending to be legally bound thereby and intending that said instrument be recorded.

Notary Public

My Commission Expires:

\_\_\_\_\_

\_\_\_\_\_  
**Nicholas Wrighton** (SEAL)

\_\_\_\_\_

\_\_\_\_\_  
**Andrew D.J. Goodearl** (SEAL)

x 6/13/01

x *Douglas A. Holtzman* (SEAL)  
**Douglas A. Holtzman**

\_\_\_\_\_

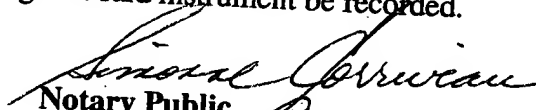
\_\_\_\_\_  
**Mehran Khodadoust** (SEAL)

\_\_\_\_\_  
**Witness** **Address**

\_\_\_\_\_  
**Witness** **Address**

STATE OF Massachusetts :  
COUNTY OF Middlesex : ss.

Before me, a notary public in and for the State and County aforesaid, on this 31<sup>st</sup> day of June, 2001, personally appeared Douglas A. Holtzman, who being to me personally known, and who having first executed the foregoing instrument in my presence and have been by me first duly sworn, did acknowledge the foregoing instrument as his free deed and act, signed, sealed and delivered by him for the purpose therein stated and intending to be legally bound thereby and intending that said instrument be recorded.

  
Notary Public  
Simone Corriveau

My Commission Expires: 9/1/2006

STATE OF \_\_\_\_\_ :  
COUNTY OF \_\_\_\_\_ : ss.

Before me, a notary public in and for the State and County aforesaid, on this \_\_\_\_ day of \_\_\_\_\_, 2001, personally appeared \_\_\_\_\_, who being to me personally known, and who having first executed the foregoing instrument in my presence and have been by me first duly sworn, did acknowledge the foregoing instrument as his free deed and act, signed, sealed and delivered by him for the purpose therein stated and intending to be legally bound thereby and intending that said instrument be recorded.

Notary Public

My Commission Expires:



\_\_\_\_\_  
Nicholas Wrighton (SEAL)

\_\_\_\_\_  
Andrew D.J. Goodearl (SEAL)

\_\_\_\_\_  
Douglas A. Holtzman (SEAL)

*\* Jan, 19, 2001*

*\* Mehran Khodadoust*  
Mehran Khodadoust (SEAL)

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Address

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Address

STATE OF Massachusetts :  
COUNTY OF Middlesex : ss.

Before me, a notary public in and for the State and County aforesaid, on this 19th day of June, 2001, personally appeared Mehran Khodadoust, who being to me personally known, and who having first executed the foregoing instrument in my presence and have been by me first duly sworn, did acknowledge the foregoing instrument as his free deed and act, signed, sealed and delivered by him for the purpose therein stated and intending to be legally bound thereby and intending that said instrument be recorded.

Notary Public

*Suzanne Gervais*

My Commission Expires:

9/1/2006

STATE OF \_\_\_\_\_ :  
COUNTY OF \_\_\_\_\_ : ss.

Before me, a notary public in and for the State and County aforesaid, on this \_\_\_\_ day of \_\_\_\_\_, 2001, personally appeared \_\_\_\_\_, who being to me personally known, and who having first executed the foregoing instrument in my presence and have been by me first duly sworn, did acknowledge the foregoing instrument as his free deed and act, signed, sealed and delivered by him for the purpose therein stated and intending to be legally bound thereby and intending that said instrument be recorded.

Notary Public

My Commission Expires: